

***** CONFIDENTIAL ***** PRE-DECISIONAL DOCUMENT *****

SITE RE-EVALUATION WORKSHEET

HRS Score sheets for 8/89 SI

Site Name: Hill Brothers Chemical Company
EPA ID No.: AZD008397242
STATE No.: 329
City: Phoenix, AZ
County: Maricopa
Site Evaluator: Judy Heywood
Date: August 17, 1989

POTENTIAL RELEASES:

☒ Groundwater
☐ Surface Water
☒ Air
☐ On-site/direct Contact

SCORING SCENARIOS:

	<u>BEST CASE</u>	<u>WORST CASE</u>
Groundwater Route Score (Sgw) =	<u>9</u>	<u>58</u>
Surface Water Route Score (Sw) =	<u></u>	<u></u>
Air Route Score (Sa) =	<u>0</u>	<u>0</u>
TOTAL SCORE (Sm) =	<u>5</u>	<u>34</u>

NEW HRS MODEL CONSIDERATIONS:

Groundwater Route: There are no potential environmental impacts to sensitive environments.

Surface Water Route: There is no surface water pathway present at this site and no threat to the food chain.

Air Route: The potential for an air release is low due to containment features installed by the facility.

On-Site Route: This site is fenced and access is restricted.

GROUNDWATER ROUTE WORKSHEET

	<u>Best Case</u>	<u>Worst Case</u>	<u>Ref.</u>	<u>Conf.</u>
1. OBSERVED RELEASE:		45	1	3
2. ROUTE CHARACTERISTICS:				
Depth to Aquifer of Concern (x2)	2			3
Net Precipitation	0			3
Permeability of Unsaturated Zone	2			3
Physical State	3			3
ROUTE CHARACTERISTIC SCORE =	7			
3. CONTAINMENT	1			
4. WASTE CHARACTERISTICS:				
Toxicity/Persistence	12	12	2	3
Hazardous Waste Quantity	6	6	3	1
WASTE CHARACTERISTIC SCORE =	18	18		
5. TARGETS:				
Groundwater Use (x3)	6	6	4	3
Distance to Nearest Well/ Population Served	35	35	5	3
TOTAL TARGETS SCORE =	41	41		
GROUNDWATER ROUTE SCORE =	(5166) 9	(33210) 58		3

SURFACE WATER ROUTE WORKSHEET

	<u>Best Case</u>	<u>Worst Case</u>	<u>Ref.</u>	<u>Conf.</u>
1. OBSERVED RELEASE:	_____	_____	_____	_____
2. ROUTE CHARACTERISTICS:				
Facility Slope and Intervening Terrain	_____	_____	_____	_____
1-yr., 24-hr. Rainfall	_____	_____	_____	_____
Distance to Nearest Surface Water (x2)	_____	_____	_____	_____
Physical State	_____	_____	_____	_____
ROUTE CHARACTERISTIC SCORE =	_____	_____	_____	_____
3. CONTAINMENT	_____	_____	_____	_____
4. WASTE CHARACTERISTICS:				
Toxicity/Persistence	_____	_____	_____	_____
Hazardous Waste Quantity	_____	_____	_____	_____
WASTE CHARACTERISTIC SCORE =	_____	_____	_____	_____
5. TARGETS:				
Surface Water Use (x3)	_____	_____	_____	_____
Distance to a Sensitive Environment (x2)	_____	_____	_____	_____
Population Served/Distance to Downstream Water Intake	_____	_____	_____	_____
TOTAL TARGETS SCORE =	_____	_____	_____	_____
SURFACE WATER ROUTE SCORE =	_____	_____	_____	_____

AIR ROUTE WORKSHEET

	<u>Best Case</u>	<u>Worst Case</u>	<u>Ref.</u>	<u>Conf.</u>
1. OBSERVED RELEASE:				
Date and Location	<u>0</u>	<u>0</u>	<u>6</u>	<u>2</u>
2. ROUTE CHARACTERISTICS:				
Reactivity and Incompatibility	<u></u>	<u></u>	<u></u>	<u></u>
Toxicity (x3)	<u></u>	<u></u>	<u></u>	<u></u>
Hazardous Waste Quantity	<u></u>	<u></u>	<u></u>	<u></u>
WASTE CHARACTERISTIC SCORE =	<u></u>	<u></u>	<u></u>	<u></u>
3. TARGETS:				
Population within 4 Miles	<u></u>	<u></u>	<u></u>	<u></u>
Distance to Sensitive Environment (x2)	<u></u>	<u></u>	<u></u>	<u></u>
Land Use	<u></u>	<u></u>	<u></u>	<u></u>
TOTAL TARGETS SCORE =	<u></u>	<u></u>	<u></u>	<u></u>
AIR ROUTE SCORE =	<u>0</u>	<u>0</u>	<u></u>	<u></u>

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Best Case
Sm WORKSHEET

	S	S ²
GROUNDWATER ROUTE SCORE (S _{gw})	= 9.0000	.0000
SURFACE WATER ROUTE SCORE (S _w)	= .0000	.0000
AIR ROUTE SCORE (S _a)	= 0.0000	.0000
TOTAL OF SQUARED SCORES	=	.0000
SQUARE ROOT OF TOTAL	=	9 0 /1.73 = 5.2
(S _m)	=	5.00

***** Actual Score *****

S_m = 5.00

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Worst Case
Sm Worksheet

	S	S ²
GROUNDWATER ROUTE SCORE (S _{gw})	= 58.0000	.0000
SURFACE WATER ROUTE SCORE (S _w)	= .0000	.0000
AIR ROUTE SCORE (S _a)	= 0.0000	.0000
TOTAL OF SQUARED SCORES	=	.0000
SQUARE ROOT OF TOTAL	= 58	0/1.73 = .0000
(S _m)	=	34.00

***** Actual Score *****

S_m = 34.00

REFERENCES

1. 1,1-DCE was detected in a groundwater sample collected from a well less than .25 miles from Hill Brothers. The potential for an observed release to the groundwater is high. 1,1-DCE and PCE detected in soil gas samples collected at this facility.
2. Toxicity/persistence value for:

PCE = 12
1,1,1-TCA = 12
3. Hill Brothers reports they do not generate hazardous waste. Any observed release would be a result of a spill, leak or release of the hazardous material stored and transferred on site. The once through volume of above ground tanks was estimated to be equivalent to over 4,088 drums. The above ground storage tank volumes were used to determine waste quantity due to the history of spills and/or leaks at the Hill Bros. facility.
4. Groundwater use within a three mile radius is primarily public drinking water.
5. A City of Phoenix public supply well is located .5 mile from Hill Brothers. The water from all city wells are blended to serve the entire City of Phoenix (1980 population was 927,965).
6. There has been no documented observed release to the air from the Hill Bros. Chemical Company, and the potential for a release is low.